What is claimed is:

1. An optical cross-connect apparatus, comprising:

a plurality of optical inputs;

a plurality of optical outputs;

an optical cross-connect provided between said plurality of optical inputs and said plurality of optical outputs; and

at least one optical filter provided outside of said cross-connect, said at least one optical filter filtering at least one optical channel of an optical signal flowing into at least one of said plurality of optical inputs or filtering at least one optical channel of an optical signal flowing out of at least one of said plurality of optical outputs or both.

2. The optical cross-connect apparatus of claim 1, wherein said optical cross-connect includes:

optical splitters optically coupled to said optical inputs; and

optical combiners optically coupled to said optical outputs,

wherein said optical splitters are optically coupled to said optical combiners in a broadcast and combine arrangement.

3. The optical cross-connect apparatus of claim 2, wherein each optical input is optically coupled to a respective one of said optical splitters and each optical output is optically coupled to a respective one of said optical combiners.

4. The optical cross-connect apparatus of claim 1, wherein there are no optical filters included within said optical cross-connect.

5. The optical cross-connect apparatus of claim 1, wherein the optical cross-connect is spectrally transparent.

6. The optical cross-connect apparatus of claim 1, wherein at least one of said plurality of optical filters is a multi-band-pass filter.

7. The optical cross-connect apparatus of claim 1, wherein at least one of said plurality of optical filters is a reconfigurable multi-band-pass filter.

8. The optical cross-connect apparatus of claim 1, wherein said optical cross-connect includes a plurality of optical couplers.

9. The optical cross-connect apparatus of claim 1, wherein at least one of said plurality of optical couplers is a passive optical coupler.

10. A method for cross connecting a plurality of optical inputs and a plurality of optical outputs, the method comprising:

providing an optical cross-connect between the plurality of optical inputs and the plurality of optical outputs; and

optically filtering at least one optical channel of an optical signal flowing into at least one of said plurality of optical inputs or at least one optical channel of an optical signal flowing out of at least one of said plurality of optical outputs or both.

11. The method of claim 10, wherein the optical cross-connect is spectrally transparent.

12. The method of claim 10, wherein said optically filtering step includes multi-band-pass filtering at least one optical channel of an optical signal flowing into at least one of said plurality of optical inputs or at least one optical channel of an optical signal flowing out of at least one of said plurality of optical outputs or both.

12. An optical cross-connect apparatus, comprising:

a plurality of optical inputs;

a plurality of optical outputs;

an optical cross-connect provided between said plurality of optical inputs and said plurality of optical outputs such that paths are formed between a subset of said plurality of optical inputs and a subset of said plurality of optical outputs, wherein a path is defined as a connection between a particular optical input and a particular output; and

at least one optical filter provided outside of said cross-connect such that for at least one path that exists between a particular optical input and a particular optical output, the path's input is filtered or the path's output is filtered or both.

13. The optical cross-connect apparatus of claim 12, wherein said optical cross-connect includes:

optical splitters optically coupled to said optical inputs; and

optical combiners optically coupled to said optical outputs,

wherein said optical splitters are optically coupled to said optical combiners in a broadcast and combine arrangement.

14. The optical cross-connect apparatus of claim 13, wherein each optical input is optically coupled to a respective one of said optical splitters and each optical output is optically coupled to a respective one of said optical combiners.

15. The optical cross-connect apparatus of claim 12, wherein there are no optical filters included within said optical cross-connect.

16. The optical cross-connect apparatus of claim 12, wherein for each path, the path's input is filtered or the path's output is filtered or both.

17. The optical cross connect apparatus of claim 12, wherein said at least one of said optical filters is a multi-band-pass filter.

18. The optical cross connect apparatus of claim 12, wherein said at least one of said input and output optical filters is a reconfigurable multi-band-pass filter.

19. A fiber ring network, comprising:

a first and second outer rings carrying optical signals in a first direction;

a first and second inner rings carrying optical signals in a second direction opposite the first direction; and

an optical cross-connect apparatus as claimed in claim 1 for providing for at least an outer-to-outer connection between the first and second outer rings and an inner-to-inner connection between said first and second inner rings.

20. The fiber ring network of claim 19, wherein there are no optical filters within said optical cross-connect apparatus, said network further comprising at least one adjacent ring node optically placed in a path of one or more of said first and second outer rings and first and second inner rings such that said adjacent ring node performs an optical filtering function.

21. The fiber ring network of claim 20, wherein said adjacent ring node includes a multi-band-pass filter.

22. A mesh network, comprising:

an optical cross-connect apparatus as claimed in claim 1; and

an optical add/drop module optically connected to one of said plurality of optical inputs and to one of said plurality of optical outputs.

23. The mesh network of claim 22, wherein the optical add/drop module includes a first and second multi-band-pass filters.

24. The mesh network of claim 23, said first and second multi-band-pass filters are optically connected to said one of said plurality of optical inputs and to said one of the plurality of said optical outputs, respectively.

25. A method for cross connecting a plurality of optical inputs and a plurality of optical outputs, the method comprising:

localizing a cross-connecting function of an optical cross-connect for cross-connecting the plurality of optical inputs and the plurality of optical outputs; and

external optical filtering with reconfigurable optical filter external to the optical cross-connect.